PRELIMINARY TECHNOLOGY ASSESSMENT

# LED Replacement Lamp for CFLs

## What is this Technology?

This “plug and play” LED lamp replaces compact fluorescent lamps (CFL) commonly used in commercial downlights without the need to replace the ballast or the socket. It is compatible with existing non-dimming standard electronic ballasts across various wattage levels, delivers approximately 900 lumens, and is available in both vertical and horizontal configurations.

## Why is GSA Interested?

To reduce energy usage and costs, building owners and operators are looking for simple, cost-effective, ready-to-use retrofit lighting solutions that are highly energy efficient and that operate reliably in existing light fixtures. This LED replacement lamp is unique in its ability to operate directly off existing CFL ballasts. Because of its ease of use and its compatibility with the vast installed base of non-dimming standard electronic ballasts, this LED replacement lamp has the potential to rapidly reduce the energy consumption associated with commercial CFLs.

**ENERGY EFFICIENCY** At 13 watts, the LED replacement lamp has the potential to reduce energy consumption of the installed base of CFLs by 50% or more.

**COST-EFFECTIVENESS** As a late stage pre-commercial technology, mature market prices are not yet available. Based on current deployments and early estimates, however, the manufacturer estimates payback of less than three years at introductory pricing and projects a one-year payback as price comes down with increased market penetration.

**OPERATIONS & MAINTENANCE** This LED replacement lamp is rated at more than 50,000 hours, five times the service life of a typical CFL. This significantly reduces maintenance associated with lamp replacement.

**DEPLOYMENT POTENTIAL** LED replacements for CFLs are applicable in most GSA office buildings and in potentially large volumes.

*The Green Proving Ground program has commissioned Pacific Northwest National Laboratory to perform real-world measurement and verification of the LED replacement lamp for CFLs in a pilot installation in a federally-owned building. Findings from the evaluation are anticipated to be available in 2016.*

GPG
Green Proving Ground Program

The Green Proving Ground program leverages GSA’s real estate portfolio to evaluate innovative sustainable building technologies. The program aims to drive innovation in environmental performance in federal buildings and help lead market transformation through deployment of new technologies.